

The present invention relates to an amino acid composition suitable for hemodialysis, comprising amino acids in the following proportions, based on the total weight of the amino acids:

	wt%	wt%
	Lower Limit	Upper Limit
Gln	15.2	22.8
Ala	7.6	11.4
Pro	6.0	9.0
Val	6.0	9.0
Gly	3.7	5.5
Lys	6.6	9.8
Leu	3.7	5.5
Thr	3.1	4.7
Ser	2.4	3.5
Arg	4.2	6.3
His	2.9	4.3
Ile	1.8	2.8
Tyr	2.4	3.5
Orn	2.4	3.5
Glu	1.8	2.8
Phe	2.1	3.1
Cys	2.9	4.3
Asn	1.3	2.0
Trp	1.6	2.4
Cit	1.0	1.6
Met	0.8	1.2
Abu	0.0	0.5
Asp	0.5	0.8

See Claim 1.

It is important to note that the claimed amino acid composition contains Gln, Tyr, Cys, Asn, and Cit.

The rejection of Claims 1-4 under 35 U.S.C. §103(a) based on Quarto di Palo et al. is respectfully traversed. This reference fails to suggest the claimed amino acid composition suitable for hemodialysis.

Quarto di Palo et al. describe a dialysis solution containing amino acids based on the concentration of normal (i.e., healthy) plasma. See page 112, column 2, second paragraph. The Table at page 113 of the reference presents a summary of the amino acid content of normal plasma and the dialysis bath described in the reference. For convenience, the Table is reproduced below.

AMINO ACID CONTENT IN NORMAL PLASMA AND DIALYSIS BATH (in $\mu\text{M/l}$)

Amino acids	Plasma	Dialysis bath
Aspartic acid	0 - 15.7	3.0
Threonine	79.7 - 153.7	121.7
Serine	51.4 - 154.1	106.5
Glutamic acid	6.9 - 75	52.4
Proline	88.6 - 352.7	230.2
Glycine	78.6 - 238.44	203.8
Alanine	228.1 - 520.2	377.5
Citrulline	15.5 - 63.9	—
Valine	146.0 - 337	257
Cystine	15 - 80	—
Methionine	12.1 - 31	24.8
Isoleucine	32.8 - 91	76.3
Leucine	76.5 - 180	141.1
Tyrosine	37.5 - 88.4	—
Phenylalanine	31.5 - 77.5	49.5
Tryptophan	34.5 - 72	27
Ornithine	47 - 73	60
Lysine	123.5 - 213	186.2
Histidine	51.5 - 141.8	74
Arginine	30 - 119	90.1

Referring to the Table above, the dialysis solution described by Quarto di Palo et al. does not contain the following amino acids: Gln, Tyr, Cys, Asn, and Cit. Nor is there any discussion of these amino acids in the reference.

In contrast, the claimed amino acid composition contains Gln, Tyr, Cys, Asn, and Cit.

In the Official Action dated June 25, 2002, the Office states at page 4:

Claims 1-4 essentially differ from the dialyzer fluid comprising the claimed amino acid concentrations in its claimed proportions.

This is not the case at all. The dialyzer fluid described in the reference is missing five of the amino acid components of the claimed composition, i.e., Gln, Tyr, Cys, Asn, and Cit. There is simply nothing in Quarto di Palo et al. which would suggest adding these amino acids to the dialyzer fluid described therein.

The Office appears to be using Table 2 at page 6 of the present specification, which lists the amino acid concentrations in the plasma of a healthy person, in support of the rejection. One would not be motivated to modify the fluid described by Quarto di Palo et al. in view of the Table to arrive at the claimed amino acid composition. Quarto di Palo et al. explicitly state that the composition described in this reference is based on normal plasma, i.e., that of a healthy person. Yet, the fluid described in the reference lacks the amino acids Gln, Tyr, Cys, Asn, and Cit, even though Table 2 at page 6 of the specification indicates that those amino acids are present in healthy plasma.

Based on the foregoing, the claimed amino acid composition is not suggested by Quarto di Palo et al. alone or in combination with information described in Table 2 at page 6 of the present application. Accordingly, Claim 1 and claims dependent thereon are not obvious over Quarto di Palo et al. Withdrawal of this ground of rejection is respectfully

requested.

The rejections of the claims under 35 U.S.C. §112, first and second paragraphs, are believed to be obviated by the amendment submitted above. Claim 1 as amended specifies that the weight percentages specified therein are based on the total weight of the amino acids. Accordingly, withdrawal of these grounds of rejection is respectfully requested.


Regarding the Restriction Requirement, since the elected claims are allowable for the reasons set forth above, Applicants request that non-elected method Claims 5-8 and 20 be rejoined with Claims 1-4. See the Official Action dated June 25, 2002 at page 2, top.

Finally, a substitute Abstract is attached hereto.

Applicants submit that the present application is in condition for allowance. Early notice to this effect is earnestly solicited.

Respectfully submitted,

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IN THE SPECIFICATION

Page 3, please replace the original text at lines 13-14 with the following:

--The objects of the invention, and others, may be accomplished with an amino acid composition comprising the following proportion of amino acids, based on the total weight of the amino acids:

Please replace the Abstract at page 20 with the substitute Abstract attached hereto.

IN THE CLAIMS

Please amend the claims as follows.

--1. (Amended) An amino acid composition suitable for hemodialysis, comprising amino acids in the following proportions, based on the total weight of the amino acids:

	wt%	wt%
	Lower Limit	Upper Limit
Gln	15.2	22.8
Ala	7.6	11.4
Pro	6.0	9.0
Val	6.0	9.0
Gly	3.7	5.5
Lys	6.6	9.8

Leu	3.7	5.5
Thr	3.1	4.7
Ser	2.4	3.5
Arg	4.2	6.3
His	2.9	4.3
Ile	1.8	2.8
Tyr	2.4	3.5
Orn	2.4	3.5
Glu	1.8	2.8
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Asn	1.3	2.0
Trp	1.6	2.4
Cit	1.0	1.6
Met	0.8	1.2
Abu	0.0	0.5
Asp	0.5	0.8

Claim 20 (New).--